

DEFINE THE FOLLOWING:

Scalene Triangle		
Isosceles Triangle		
Equilateral Triangle		
Acute Triangle		
Right Triangle		
Obtuse Triangle		

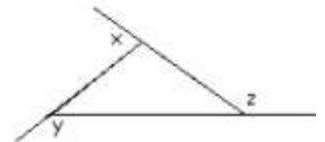
**Triangle Theorems** - Complete the following on separate piece of paper.

1. Draw a scalene triangle - measure the interior angles of the triangle.

The sum of these angles = \_\_\_\_\_.

2. Extend the line segments that make up the triangle so that they look like the triangle to the right. Measure the values of angles  $x$ ,  $y$  and  $z$ .

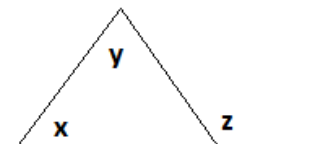
The sum of angles  $x$ ,  $y$  and  $z$  = \_\_\_\_\_.



3. Draw an isosceles triangle and measure the interior angles. What do you notice about the relationship between the sides of equal length and the angles opposite them?

4. If all sides are equal what would the measure of each angle be? \_\_\_\_\_

5. Draw a triangle and measure angles  $x$ ,  $y$  and  $z$  as diagrammed to the right. How are  $x$ ,  $y$  and  $z$  related?



## Triangle Theorems and Their Acronyms

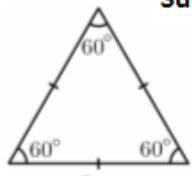


Angle Sum Triangle Theorem (ASTT)

$$x + y + z = \underline{\hspace{2cm}}$$



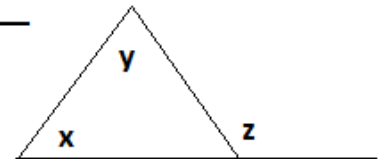
Isoceles Triangle Theorem (ITT)



Equilateral Triangle Theorem (ETT)

Sum of External Angle Triangle Theorem (SEATT)

$$x + y + z = \underline{\hspace{2cm}}$$

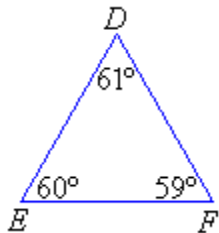


Exterior Angle Triangle Theorem (EATT)  $x + y = \underline{\hspace{2cm}}$

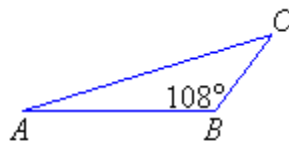
### QUESTIONS - SHOW WORK ON A SEPARATE PAGE OF PAPER

1. Classify each of the following triangles according to the size of their angles

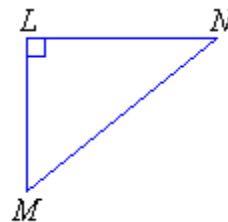
a.



b.

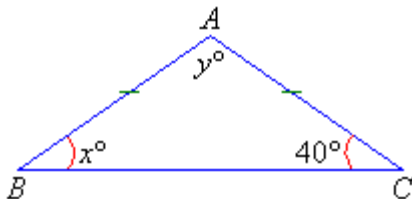


c.

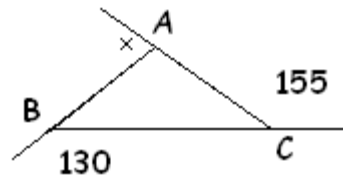


2. Calculate the size of the missing angle in the following triangles - Be sure to state theorems and show work.

a.

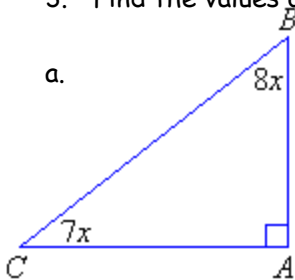


b.

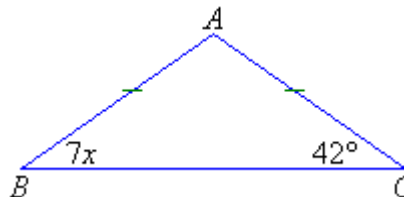


3. Find the values of the variables in the following triangles - state theorems and show work.

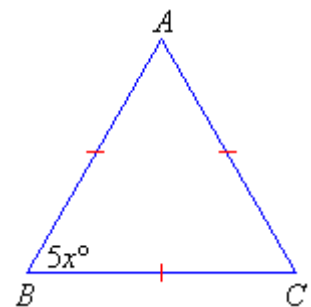
a.



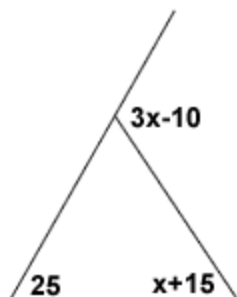
b.



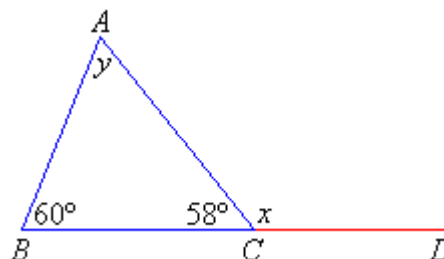
c.



d.



e.



#### **Answers:**

1. acute b. obtuse c. right

2.  $x = 40$ ,  $y = 100$  b.  $x = 75$

3a. 10 b. 6 c. 12 d. 25 e.  $y = 62$ ,  $x = 122$

**Homework:** p. 371 #(1, 2, 4) all ab 5de 11 and 14 and worksheet choose 10 (STATE THEOREMS FOR EVERY QUESTION)